INVASIVE SPECIES CONTROL PROJECTS (R1 SMALL GRANTS)
CY 2014 FINAL REPORT

Project Title: Coastal Prairie Invasive Species Control and Restoration

Station: Nestucca Bay NWR

Contact Person: Rebecca Chuck 541-867-4550

Project Description: Control highly aggressive, non-native grasses and other invasive plants on 25 acres (Restoration Area 3/5) of former coastal headland prairie on Cannery Hill and begin the process of subsequent replacement with native coastal grasses and forbs. Planned activities included chemical and mechanical control of invasive grasses and forbs; the collection and grow-out of additional native forbs and grasses; and seeding of native sand fescue and forbs. Replanting with native species is as critical to restoration as the elimination of the invasive species: if not replaced with natives, the invasive plants will quickly return and negate previous control efforts.

Invasive Species Targeted: The primary species to be controlled are three invasive, aggressive grass species, rattail fescue (*Vulpia myuros*), velvet grass (*Holcus lanatus*), and reed canary grass (*Phalaris arundinacea*); scattered patches of burnweed (*Erechtites minima*); and any other EDRR invasive species.

Project Completion Date or Estimated Completion Date: Funded treatment completed November 2014; assessment and monitoring of success to continue in 2015.

Project Results: Several different invasive weed control actions were used on coastal prairie Restoration Area 3/5 at Nestucca Bay NWR in 2014. Related actions included backpack spot spraying, foam herbicide application, broadcast spraying, mowing, manual control, and drill seeding. The drilling of native sand fescue (*Festuca ammobia*) seed on February 4, 2014 marked the beginning of the process of revegetating the site to encourage lowered invasibility by non-native plants. Prior to this date, weed control efforts were non-selective and focused on removing all vegetation in order to create a good mineral soil seed bed. Actions after this date were targeted toward a specific weed species or functional group, such as all broadleaf weeds or all grasses (excluding fine-leaved fescues).

Applications of a grass-specific herbicide Poast (sethoxydim) were focused on the invasive velvet grass. Velvet grass is the dominant introduced species in most prairie restoration units at Nestucca Bay NWR. Control resulting from the June 10 broadcast spray varied in success from 0% to 100% kill depending on monitoring plot location, with a mean percent kill of 41%. For successful control with grass-specific herbicides, repeat applications are usually necessary. Poast had previously been used in repeat applications in another restoration area at Nestucca Bay NWR and velvet grass still persists in these locations. As a result of this history and the low control level achieved from the June 10 spray, a follow up application of Fusilade (fluazifop-p-butyl) was done on November 7. The impact of this treatment will be assessed in spring of 2015 upon the reinitiation of vegetative growth. As a result of monitoring efforts on the effect of different 2,4-D concentrations, different broadleaf specific herbicides were chosen to be applied on October 9. The impact of this treatment will also be assessed in spring of 2015 upon the reinitiation of vegetative growth.

Early Detection, Rapid Response Opportunities: Two noteworthy invasive species are in the early stages of colonization at Nestucca Bay NWR. Burnweed poses a significant management challenge at other Oregon silverspot butterfly restoration sites on the Oregon Coast and has started to appear at Nestucca Bay NWR in the last 2 years. In 2014, this species was actively managed in all Restoration Areas at Nestucca Bay NWR and all known individuals were treated chemically or manually prior to seed set. Additionally, 3 individuals of tall oatgrass (*Arrhenatherum elatius* ssp. *elatius*) were found in early October. This species is highly invasive in upland prairies in the Willamette Valley. The Oregon Flora Project contains no collections from the entire Oregon Coast, so this finding is significant in that it represents an extension of the known range of the species. The three individuals were pulled by hand and disposed of off-site. All restoration areas will be monitored actively for any further occurrences of this species.

Number of Acres Treated: 25

Number of Acres Inventoried and/or Mapped: 25

Number of Acres Restored: 25 (continuing)

Total Grant Amount: $ 35,000

Breakdown of Expenditures:

Category	**Total $ Spent**	**% of Total Grant**
Equipment/Supplies	$ 1,479.57	4 %
Chemical	$ 3,520.43	10 %
Biocontrol Agents	-	-
Travel	-	-
Biotech/Contractor Salary	-	-
Restoration Materials	-	-
Other – IAE (Cooperative Agreement) – guidance and recommendations for restoration activities; planning, subcontracting and oversight for herbicide application; native fescue seed; monitoring and photo documentation	$ 30,000.00	86 %
TOTAL	$ 35,000	100 %